

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A communication system for carrying out data communication among a plurality of communication stations, comprising:

a first communication station ~~for transmitting to other communication stations~~
configured to transmit a request to send signal to at least one other communication station,
the request to send signal indicating a request to initiate for requesting a transmission upon
~~the start of the~~ data transmission; and

a ~~plurality of~~ second communication station configured to receive the request to send
signal transmitted from said first communication station, and to transmit stations transmitting
~~to other communication stations~~ a clear to send signal to at least one of the plurality of
communication stations for notifying the in reply to the request to send signal completion of
~~preparing the reception,~~ wherein[[:]]

said first communication station ~~transmits~~ receives the clear to send signal transmitted
from said second communication station,

the request to send signal received by said second communication station includes
~~describing at least each of~~ an addresses of said second communication station, and stations
~~that are desired to receive the data, and receives a plurality of the clear to send signals~~
~~transmitted from each of said second communication stations~~

the clear to send signal includes a first section including information used to indicate
an interval of time during which a communication station having an address that is not
included in the request to send signal must stop its communication operation, and a second
section including the address of said second communication station.

Claim 2 (Currently Amended): The communication system according to as cited in claim 1, wherein~~[[;]]~~ said first communication station has a plurality of antenna elements for a directive antenna~~[[;]]~~ ~~each of said plurality of second communication stations transmit the~~ clear to send signal transmitted from said second communication station includes describing ~~at least~~ reference information known to said first communication station~~[[;]]~~ and said first communication station adaptively determines timing information ~~learns weightings~~ for the directive antenna ~~on the basis of~~ based on the reference information in the clear to send signal ~~signals~~ transmitted from said ~~plurality of second communication station~~ stations.

Claim 3 (Currently Amended): The communication system according to as cited in claim 2, wherein~~[[;]]~~ said first communication station is further configured to transmit ~~transmits data using by the~~ space division multiplexing to ~~each of~~ said second communication station ~~stations~~ using said plurality of antenna elements, when receiving the clear to send signal transmitted from ~~each of~~ said ~~plurality of second communication station~~ stations, ~~[[;]]~~ and ~~each of~~ said ~~plurality of second communication station~~ is further configured to transmit an acknowledgement signal including ~~stations transmits a response signal which is used to~~ ~~notify that the transmitted data to other stations is correctly received, describes at least second~~ reference information known to said first communication station, the acknowledgement signal ~~[[and]]~~ is inherent to said ~~plurality of second communication station~~ stations when receiving the data transmitted from said first communication station.

Claim 4 (Currently Amended): The communication system according to as cited in claim 1, wherein~~[[;]]~~ ~~each of~~ said ~~plurality of second communication station~~ stations transmits the clear to send signal including its own ~~signals describing self~~ address.

Claim 5 (Currently Amended): The communication system according to as cited in claim 1, wherein: ~~each~~ said ~~plurality of~~ second communication station is further configured to ~~stations~~ time-divisionally transmit ~~transmits~~ the clear to send signal ~~signals~~.

Claim 6 (Currently Amended): The communication system according to as cited in claim 1, wherein: ~~the clear to send signal is formed to have generally two sections in which a first section describes at least an interval where a third communication station the address of which is not described in the request to send signal transmitted from said first communication station must stop its communication operation, and a second section describes at least~~ reference information known to said first communication station; and each of said ~~plurality of~~ second station is further configured to transmit ~~stations~~ transmits the second section in a time ~~divisional~~ manner after transmitting the first section ~~at the same time~~.

Claim 7 (Currently Amended): The communication system according to as cited in claim 1, wherein: ~~the clear to send signal is formed to have generally two sections in which a first section describes at least an interval where a third communication station the address of which is not described in the request to send signal transmitted from said first communication station must stop its communication operation, and a second section describes at least~~ reference information known to said first communication station; and each of said ~~plurality of~~ second communication station is further configured to transmit ~~stations~~ transmits the second section ~~at the same time~~ after transmitting the first section ~~at the same time~~.

Claim 8 (Currently Amended): The communication system according to as cited in claim 1, wherein: ~~each of~~ said first communication station and said ~~plurality of~~ second communication station perform ~~stations is configured to carry out~~ wireless communications.

Claim 9 (Currently Amended): A communication method for carrying out data communication among a plurality of communication stations, comprising:

transmitting a request to send signal from a first communication station to at least one other communication station, the request to send signal indicating a request to initiate data transmission;

receiving the request to send signal transmitted from said first communication station at a second communication station; and

transmitting a clear to send signal from said second communication station to at least one of the plurality of communication stations, in reply to the request to send signal, wherein

said first communication station receives the clear to send signal transmitted from said second communication station,

the request to send signal received by said second communication station includes an address of said second communication station, and

the clear to send signal includes a first section including information used to indicate an interval of time during which a communication station having an address that is not included in the request to send signal must stop its communication operation, and a second section including the address of said second communication station.

~~wherein: upon a data transmission, a first communication station transmits a request to send signal for requesting transmission to other station, said request to send signal describing at least addresses of a plurality of second communication stations that are desired to receive the data when receiving the request to send signal transmitted from the first communication station; each of said plurality of second communication stations transmits a clear to send signal notifying the completion of preparing the reception; and said first~~

~~communication station receives said plurality of clear to send signals transmitted from each of said plurality of second communication stations.~~

Claim 10 (Currently Amended): The communication method according to as cited in claim 9, wherein~~[[:]]~~ said first communication station has a plurality of antenna elements for a directive antenna, ~~[[;]]each of said plurality of second communication station stations~~ transmit clear to send signal ~~signals~~ describing at least reference information known to said first communication station, ~~[[;]]~~ and said first communication station adaptively determines timing information ~~learns weightings~~ for the directive antenna on the basis of the reference information in the clear to send signal ~~signals~~ transmitted from ~~each of said plurality of~~ second communication station ~~stations~~.

Claim 11 (Currently Amended): The communication method ~~system according to~~ as ~~eited in~~ claim 10, wherein~~[[:]]~~ said first communication station transmits data by ~~[[the]]~~ space division multiplexing to ~~each of said second communication station stations~~ using said plurality of antenna elements when receiving the clear to send signal ~~signals~~ transmitted from ~~each of said plurality of second communication station stations, [[;]]~~ and ~~each of said plurality of second communication station is further configured to transmit an acknowledgement stations transmits a response signal which is used to notify that the transmitted data to other stations is correctly received, including describes at least second reference information known to said [[the]] first communication station, said acknowledgement signal [[and]] is inherent to said plurality of second communication station stations~~ when receiving the data transmitted from said first communication station.

Claim 12 (Currently Amended): A communication apparatus for transmitting data to other communication stations, comprising:

data processing means for generating a request to send signal indicating a request to initiate requesting transmission to other communication station upon data transmission, the request to send signal including an address of a second communication station that is intended to receive the data transmission and describing at least addresses of a plurality of communication stations requested to receive the data; and

communication means for transmitting the request to send signal, and receiving a clear to send signal from said second communication station, in reply to the request to send signal, wherein

the clear to send signal includes a first section including information used to indicate an interval of time during which a communication station having an address that is not included in the request to send signal must stop its communication operation, and a second section including the address of said second communication station, said second communication station transmits said clear to send signal.

Claim 13 (Currently Amended): The communication apparatus according to as cited in claim 12, wherein~~[[:]]~~ said communication means receives a plurality of clear to send signals transmitted from a [[said]] plurality of communication stations which receive ~~receives~~ the request to send signal ~~for notifying the completion of preparing the reception to the other communication station.~~

Claim 14 (Currently Amended): The communication apparatus according to as cited in claim 13, wherein~~[[:]]~~ said communication means includes a plurality of antenna elements for a directive antenna, ~~[[;]]~~ and the data processing means adaptively determines timing

information learns weightings for the directive antenna based on ~~the basis of~~ the reference information in the clear to send signals transmitted from the plurality of ~~second~~ communication stations.

Claim 15 (Currently Amended): The communication apparatus according to as cited in claim 14, wherein~~[[:]]~~ said data processing means obtains transfer functions between each of antenna elements of said plurality of ~~second~~ communication stations and each of said plurality of antenna elements thereof on the basis of the reference information in the plurality of the clear to send signals transmitted from said plurality of ~~second~~ communication stations, and adaptively determines the timing information ~~learns the weightings~~ for the directive antenna on the basis of the transfer functions.

Claim 16 (Currently Amended): The communication apparatus according to as cited in claim 14, wherein~~[[:]]~~ said communication means transmits data by the space division multiplexing to each of said plurality of communication stations using said plurality of antenna elements when receiving the clear to send signals transmitted from each of said plurality of communication stations, ~~[[;]]~~ and receives an acknowledgement ~~a response~~ signal ~~which is used to notify that the transmitted data to other stations is correctly received, that is~~ inherent to the communication station itself, ~~and describes at least~~ the acknowledgement signal includes second reference information known to the other communication stations ~~station~~ when receiving the data transmitted from each of the plurality of communication stations.

Claim 17 (Currently Amended): The communication apparatus according to as cited in claim 16, wherein~~[[:]]~~ said data processing means directly determines timing information

~~learns the weightings of the directive antenna based on the basis of the second reference~~
information included in ~~[[the]]~~ a plurality of acknowledgement signals ~~response signals~~
transmitted ~~from each of~~ by the plurality of communication stations.

Claim 18 (Currently Amended): The communication apparatus according to ~~as cited~~
~~in~~ claim 13, wherein~~[[:]]~~ said communication means receives the clear to send signals
transmitted from each of said plurality of communication stations, ~~[[and]]~~ including
~~describing~~ addresses of ~~these~~ each of the plurality of communication stations.

Claim 19 (Currently Amended): The communication apparatus according to ~~as cited~~
~~in~~ claim 13, wherein~~[[:]]~~ said communication means time-divisionally receives the plurality
of clear to send signals time-divisionally transmitted from each of the plurality of
communication stations.

Claim 20 (Currently Amended): The communication apparatus according to ~~as cited~~
~~in~~ claim 13, wherein: ~~the clear to send signal is formed to have generally two sections in~~
~~which a first section describes at least an interval where a communication station the address~~
~~of which is not described in the request to send signal must stop its communication operation,~~
~~and a second section describes at least reference information known to itself; and said~~
communication means receives in time divisional manner ~~[[the]]~~ a plurality of second
sections transmitted from each of the plurality of communication stations in time divisional
manner after receiving ~~at the same time~~ the plurality of first sections transmitted from each of
the plurality of communication stations ~~at the same time~~.

Claim 21 (Currently Amended): The communication apparatus according to as cited in claim 13, wherein: ~~the clear to send signal is formed to have generally two sections in which a first section describes at least an interval where a communication station the address of which is not described in the request to send signal transmitted from said first communication station must stop its communication operation and a second section describes at least reference information known to itself; and said communication means receives at the same time the plurality of second sections transmitted from each of the plurality of communication stations at the same time after receiving at the same time the plurality of first sections transmitted from each of the plurality of communication stations at the same time.~~

Claim 22 (Currently Amended): A communication apparatus for receiving data transmitted from other communication stations, comprising:

communication means for transmitting and receiving data ~~a request to send signal requesting transmission to other communication station upon transmission of data by the communication station of a transmission side and describing at least addresses of a plurality of communication stations requested to receive the data; and~~

data processing means for ~~generating clear to send signal for notifying the completion of preparing the reception to the communication station of the transmission side~~ processing the data transmitted and received by the communication means, wherein

when the communication apparatus receives a request to send signal requesting a transmission upon the start of the data transmission in transmission origin station, said data processing means generates a clear to send signal, the clear to send signal includes a first section including information used to indicate an interval of time during which a communication station having an address that is not included in the request to send signal must stop its communication operation, and a second section including the address of said

second communication station, said communication means transmits said clear to send signal,
and

the request to send signal describing at least an address of a communication station
that is intended to receive the data transmission.

Claim 23 (Currently Amended): The communication apparatus according to as cited
in claim 22, wherein[[[: the]] a communication station [[of the]] on a transmission side
includes a plurality of antenna elements for a directive antenna, [[:]] and the data processing
means generates the clear to send signal including describing at least a reference information
known to the communication station [[of]] on the transmission side and used for adaptively
determining timing information ~~learning weightings~~ for the directive antenna based on the
~~basis of the reference information by the communication station of the transmission side,~~ [[:]]
and the communication means transmits the clear to send signal.

Claim 24 (Currently Amended): The communication apparatus according to as cited
in claim 23, wherein: ~~the data processing means generates a clear to send signal describing at~~
~~least the reference information~~ includes information used for ~~capable of~~ obtaining transfer
functions between antenna elements of itself and the plurality of antenna elements of the
communication station [[of]] on the transmission side.

Claim 25 (Currently Amended): The communication apparatus according to as cited
in claim 23, wherein[[[:]] when said data processing means receives the data transmitted from
the communication station on the transmission side using a plurality of antenna elements by
the space division multiplexing, said data processing means, ~~when receiving the data~~
~~transmitted from the communication station of the transmission side using a plurality of~~

~~antenna elements by the space division multiplexing,~~ generates an acknowledgement a response signal known to the communication station ~~[[of]]~~ on the transmission side sent for notifying the correct reception of transmitted data to the other communication stations station, and for describing at least and including a second reference signal used for directly determining timing information ~~learning weightings~~ of the directive antenna by the communication station ~~[[of]]~~ on the transmission side, ~~[[;]]~~ and said communication means transmits the acknowledgement response signal.

Claim 26 (Currently Amended): The communication apparatus according to as cited in claim 22, wherein~~[[;]]~~ said data processing means generates the clear to send signal including its own ~~describing at least a self~~ address.

Claim 27 (Currently Amended): The communication apparatus according to as cited in claim 22, wherein~~[[;]]~~ said data processing means time-divisionally transmits the clear to send signal signals.

Claim 28 (Currently Amended): The communication apparatus according to as cited in claim 22, wherein: ~~said data processing means generates the clear to send signal as to have generally two sections in which a first section describes at least an interval where a communication station the address of which is not described in the request to send signal must stop its communication operation and a second section describes at least reference information known to the communication station of the transmission side and is used for learning weightings of the directive antenna by the communication station of the transmission side;~~ and said communication means time-divisionally transmits the second section after transmitting ~~at the same time~~ the first section.

Claim 29 (Currently Amended): The communication apparatus according to ~~as cited~~ in claim 22, wherein: ~~said data processing means generates the clear to send signal as to have generally two sections in which a first section describes at least an interval where a communication station the address of which is not described in the request to send signal must stop its communication operation and a second section describes at least reference information known to the communication station of the transmission side and is used for learning weightings of the directive antenna by the communication station of the transmission side; and said communication means at the same time transmits the second section after transmitting at the same time the first section.~~

Claim 30 (New): The communication system according to claim 1, wherein said first section is a format that the communication station having an address that is not included in the request to send signal can interpret, and said second section is a format that the communication station the communication station having an address that is not included in the request to send signal can not interrupt.